

**WHAT IS CLAIMED IS:**

1           1.       A method of interfacing with network management information on a network  
2 device, comprising:  
3           receiving a management information base (MIB) including information related to one  
4 or more aspects of a network device;  
5           extracting a subset of information from the MIB describing at least one aspect of the  
6 network device; and  
7           generating a set of object-oriented classes and object-oriented methods corresponding  
8 to the subset of information in the MIB..

1           2.       The method of claim 1, wherein information in the MIB corresponds to a set  
2 of network parameters organized in a hierarchy and used to describe aspects of the network  
3 device.

1           3.       The method of claim 1, wherein extracting information from the MIB further  
2 includes lexically recognizing a set of tokens corresponding to a set of network parameters  
3 that describes aspects of the network device and parsing the tokens according to a hierarchical  
4 relationship between the set of parameters.

1           4.       The method of claim 1, wherein the relationship among the object-oriented  
2 classes is a hierarchy that corresponds to the MIB.

1           5.       The method of claim 1, wherein the methods generated include methods  
2 capable of accessing and manipulating objects instantiated from at least one of the object-  
3 oriented classes.

1           6.       The method of claim 5, wherein the methods include one or more of the  
2 operations used to operate on the MIB.

1           7.       The method of claim 6, wherein the operations used to operate on the MIB are  
2 selected from a group of operations including get, set, and test of SNMP (simple network  
3 management protocol) variables.

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1           8.       A method of interfacing with network management information on a network  
2 device, comprising:

3               providing a management information base (MIB) including information related to one  
4 or more aspects of a network device; and

5               using a set of object-oriented classes and object-oriented methods that corresponds to  
6 the MIB and information related to one or more aspects of the network device.

1           9.       The method of claim 8, wherein information in the MIB corresponds to a set  
2 of network parameters organized in a hierarchy and capable of describing aspects of the  
3 network device.

1           10.      The method of claim 8, wherein the relationship among the object-oriented  
2 classes is a hierarchy that corresponds to the MIB.

1           11.      The method of claim 8, wherein the object-oriented methods are capable of  
2 accessing and manipulating objects instantiated from at least one of the object-oriented  
3 classes.

1           12.      The method of claim 11, wherein the object-oriented methods correspond to  
2 one or more of the operations used to operate on the MIB..

1           13.      The method of claim 12, wherein the one or more operations used to operate  
2 on the MIB are selected from a group of operations including get, set, and test of SNMP  
3 (simple network management protocol) variables.

1           14.      An apparatus to interface with network management information on a network  
2 device, comprising:

3               a receiver module configured to receive a management information base (MIB)  
4 including information related to one or more aspects of the network device;

5               an extraction module configured to extract a subset of information from the MIB  
6 describing at least one aspect of the network device; and

7               a generation module configured to generate a set of object-oriented classes and object-

8 oriented methods corresponding to the subset of information in the MIB..

1 15. The apparatus of claim 14, wherein information in the MIB corresponds to a  
2 set of network parameters organized in a hierarchy and used to describe the network device.

1 16. The apparatus of claim 14, wherein the extraction module extracts information  
2 from the MIB by lexically recognizing a set of tokens corresponding to a set of network  
3 parameters describing the network device and parsing the tokens according to a hierarchical  
4 relationship between the set of parameters.

1 17. The apparatus of claim 14, wherein the relationship among the object-oriented  
2 classes is a hierarchy that corresponds to the MIB.

1 18. The apparatus of claim 14, wherein the object-oriented methods generated  
2 include object-oriented methods capable of accessing and manipulating objects instantiated  
3 from at least one of the object-oriented classes.

1 19. The apparatus of claim 14, wherein the object-oriented methods include one or  
2 more of the operations used to operate on the MIB..

1 20. The apparatus of claim 19, wherein the operations used to operate on the MIB  
2 include are selected from a group of operations including get, set, and test of SNMP (simple  
3 network management protocol) variables.

1 21. An apparatus for interfacing with network management information on a  
2 network device, comprising:

3 a first storage area configured to store a management information base (MIB)  
4 including information related to one or more aspects of a network device; and

5 a second storage area configured to store a set of object-oriented classes and object-  
6 oriented methods that corresponds to the MIB and information related to one or more aspects  
7 of the network device.

1 22. An apparatus comprising a computer-readable storage medium tangibly  
2 embodying program instructions for creating an interface to obtain network management  
3 information, the program instructions including instructions operable to cause a processor to:

4 receive a management information base (MIB) including information related to one or  
5 more aspects of a network device;  
6 extract a subset of information from the MIB describing at least one aspect of the  
7 network device; and  
8 generate a set of object-oriented classes and object-oriented methods corresponding to  
9 the subset of information in the MIB.

1 23. An apparatus comprising a computer-readable storage medium tangibly  
2 embodying program instructions for creating an interface to obtain network management  
3 information, the program instructions including instructions operable to cause a processor to:  
4 provide a management information base (MIB) including information related to one  
5 or more aspects of a network device; and  
6 use a set of object-oriented classes and object-oriented methods that corresponds to  
7 the MIB and information related to one or more aspects of the network device.

1 24. An apparatus for interfacing with network management information on a  
2 network device, comprising:  
3 means for receiving a management information base (MIB) including information  
4 related to one or more aspects of a network device;  
5 means for extracting a subset of information from the MIB describing at least one  
6 aspect of the network device; and  
7 means for generating a set of object-oriented classes and object-oriented methods  
8 corresponding to the subset of information in the MIB.

1 25. An apparatus for interfacing with network management information on a  
2 network device, comprising:  
3 providing a management information base (MIB) including information related to one  
4 or more aspects of a network device; and  
5 using a set of object-oriented classes and object-oriented methods that corresponds to  
6 the MIB and information related to one or more aspects of the network device.